



1632

PATENT

Our Docket: P-IX 4976

PH#7

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Watkins et al.

Serial No.: 09/995,529

Filed: November 26, 2001

For: HUMANIZED COLLAGEN ANTIBODIES
AND RELATED METHODS

Examiner: Not Yet Known

Group Art Unit: 1632

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By

Deborah L. Cadena
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INFORMATION DISCLOSURE STATEMENT

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Sir:

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In accordance with 37 C.F.R. § 1.97, enclosed are
references relating to the above-identified application. For the
convenience of the Examiner, these references are listed on the
attached Form PTO-1449, and a copy of each is enclosed herewith.

It is respectfully requested that these references be
considered in the examination of this application and that their
consideration be made of written record in the application file.

No fee is deemed necessary in connection with the
filing of this Information Disclosure Statement. However, if any
fee is required, authorization is hereby given to charge the
amount of any such fee to Deposit Account No. 03-0370.

Respectfully submitted,

Date: June 21, 2002

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	US Department of Commerce Patent and Trademark Office	ATTY DOCKET NO: P-IX 4976	SERIAL NO. 09/995,529
		APPLICANT: Watkins et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		FILING DATE: 11/26/01	GROUP: 1632

U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	5,223,409	6/29/93	Ladner et al.	435	69.7	3/1/91
	5,264,563	11/23/93	Huse	536	25.3	12/14/92
	5,403,484	4/4/95	Ladner et al.	435	235.1	1/26/93
	5,523,388	6/4/96	Huse	536	22.1	2/27/95
	5,871,974	2/16/99	Huse	435	69.7	12/2/94

FOREIGN PATENT DOCUMENTS

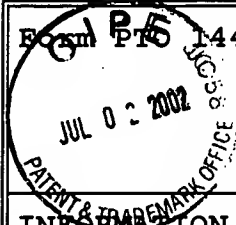
EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
	WO 98/33919	06/08/98	PCT			<div>RECEIVED</div> <div>JUL 08 2002</div> <div>TECH CENTER 1600/2300</div>
	WO 99/06834	11/02/99	PCT			
	WO 00/40597	13/07/00	PCT			
	WO 00/78815	28/12/02	PCT			
	WO 01/27160	19/04/01	PCT			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

	Chothia and Lesk, "Canonical Structures for the Hypervariable Regions of Immunoglobulins," <u>J. Mol. Biol.</u> , 196:901-917 (1987).
	Glaser et al., "Antibody Engineering by Condon-Based Mutagenesis in a Filamentous Phage Vector System," <u>J. Immunology</u> , 149(12):3903-3913 (1992).

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PT-1449 US Department of Commerce Patent and Trademark Office 	ATTY DOCKET NO: P-IX 4976	SERIAL NO. 09/995,529
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT: Watkins et al.	
	FILING DATE: 11/26/01	GROUP: 1632

		Huse et al., "Application of a Filamentous Phage pVIII Fusion Protein System Suitable for Efficient Production, Screening, and Mutagenesis of F(ab) Antibody Fragments," <u>J. Immunology</u> , 149(12):3914--3920 (1992).
		Kabat et al., "Unusual Distributions of Amino Acids in Complementarity-determining (Hypervariable) Segments of Heavy and Light Chains of Immunoglobulins and Their Possible Roles in Specificity of Antibody-combining Sites," <u>J. Biol. Chem.</u> , 252(19):6609-6616 (1977).
		Kabat et al., "Sequences of Proteins of Immunological Interest," U.S. Department of Health and Human Services (1991)
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		Kunkel, "Rapid and Efficient Site-Specific Mutagenesis without Phenotypic Selection," <u>Proc. Natl. Acad. Sci. USA</u> , 82(2):488-492 (1985).
		MacCallum et al., "Antibody-antigen interactions: contact analysis and binding site topography" <u>J. Mol. Biol.</u> , 262:732-745 (1996).
		Watkins et al., "Determination of the Relative Affinities of Antibody Fragments Expressed in <i>Escherichia coli</i> by Enzyme-Linked Immunosorbent Assay," <u>Analytical Biochem.</u> , 253:37-45 (1997).
		Wu et al., "Humanization of a Murine Monoclonal Antibody by Simultaneous Optimization of Framework and CDR Residues," <u>J. Mol. Biol.</u> , 294:151-162 (1999).
		Wu et al., "Stepwise in vitro affinity maturation of Vitaxin, an $\alpha_v\beta_3$ -specific humanized mAb," <u>Proc. Natl. Acad. Sci. USA</u> , 95:6037-6042 (1998).

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